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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,218	09/09/2003	Kazutoshi Noda		9102
7590	04/14/2005			EXAMINER TERESINSKI, JOHN
LORUSSO & LOUD 3137 Mt. Vernon Avenue Alexandria, VA 22305			ART UNIT 2858	PAPER NUMBER

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SJM

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/657,218	NODA ET AL.
	Examiner	Art Unit
	John Teresinski	2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 09 September 2003.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-7 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,2,5 and 6 is/are rejected.  
 7) Claim(s) 3,4 and 7 is/are objected to.                    °  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,852,229 to Josse et al..

Regarding claim 1, Josse et al. disclose a method and apparatus for analyzing a concentration of a target substance contained in a gas (column 6 lines 64-67) having a quartz oscillator having opposing surfaces each provided with an electrode (column 7 lines 4-10), at least one of the electrodes being reactable with said target substance (column 7 lines 8-10), contacting the gas with the reactable electrode of said quartz oscillator so that the target substance is reacted with the reactable electrode (column 7 lines 14-17) and measuring a variation in frequency of the quartz oscillator in step (column 7 lines 20-23).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,344,119 to Kato et al. in view of Josse et al..

Regarding claim 2 Kato disclose a method and device for analyzing a concentration of a gas (column 7 lines 1-5) including feeding gas to a reactor to decompose a target substance (column 8 lines 23-27, column 9 lines 58-67) and to produce a product gas containing a decomposition product (column 9 lines 58-67), discharging the decomposition product gas from the reactor (column 10 lines 9-16) and a sensor provided with an electrode contacting the discharged decomposition product gas (column 9 lines 39-48). Kato et al. does not disclose a quartz oscillator for analyzing a concentration of a target substance contained in a gas. Josse et al. disclose having a quartz oscillator having opposing surfaces each provided with an electrode (column 7 lines 4-10), at least one of the electrodes being reactable with said target substance (column 7 lines 8-10), contacting the gas with the reactable electrode of said quartz oscillator so that the target substance is reacted with the reactable electrode (column 7 lines 14-17) and measuring a variation in frequency of the quartz oscillator in step (column 7 lines 20-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a quartz oscillator as taught by Josse et al. into Kato et al. for the purpose of providing a more sensitive and more selective sensor providing analyte specific chemical information (column 3 lines 13-62).

Regarding claim 5, Kato et al. disclose a contacting chamber (62) and a connecting passage extending between said reactor and the contacting chamber for discharging the product gas from said reactor and introducing same to said contacting chamber (column 10 lines 9-16).

Regarding claim 6, Kato et al. disclose the reactor provided with a packed bed of an oxidizing agent supported on carrier particles (column 9 lines 49-57), the oxidizing agent being reactable with said target substance to yield said decomposition product (column 10 lines 9-16).

***Allowable Subject Matter***

Claims 3, 4 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding claim 3:

The primary reason for the allowance of claim 3 is the inclusion of oxidizing the oxidizable substance with iodine pentoxide. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Regarding claim 4:

The primary reason for the allowance of claim 4 is the inclusion of oxidizing the chloro-organic compound with lead oxide and sulfuric acid. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Regarding claim 7:

The primary reason for the allowance of claim 7 is the inclusion of carrier particles that are silica particles and the oxidizing agent a combination of iodine pentoxide with sulfuric acid. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is cited to further show the state of the art with respect to gas sensing methods and devices in general:

U.S. Patent No. 5,411,709 to Furuki et al. discloses a gas sensor including a quartz resonator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (571) 272-2235. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JT

JT

April 12, 2005

*Anjan Deb*  
ANJAN DEB  
PRIMARY EXAMINER